Welcome to today's Infopeople Webinar!

Infopeople is dedicated to bringing you the best in practical library training and improving information access for the public by improving the skills of library workers. Infopeople, a grant project of the Califa Group, is supported in part by the Institute of Museum and Library Services under the provisions of the Library Services and Technology Act administered in California by the State Librarian. This material is covered by Creative Commons 4.0 Non-commercial Share Alike license. Any use of this material should credit the funding source.

The Art of Coding

An Infopeople Webinar

April 27, 2017

Presented by Sylvia Aguiñaga

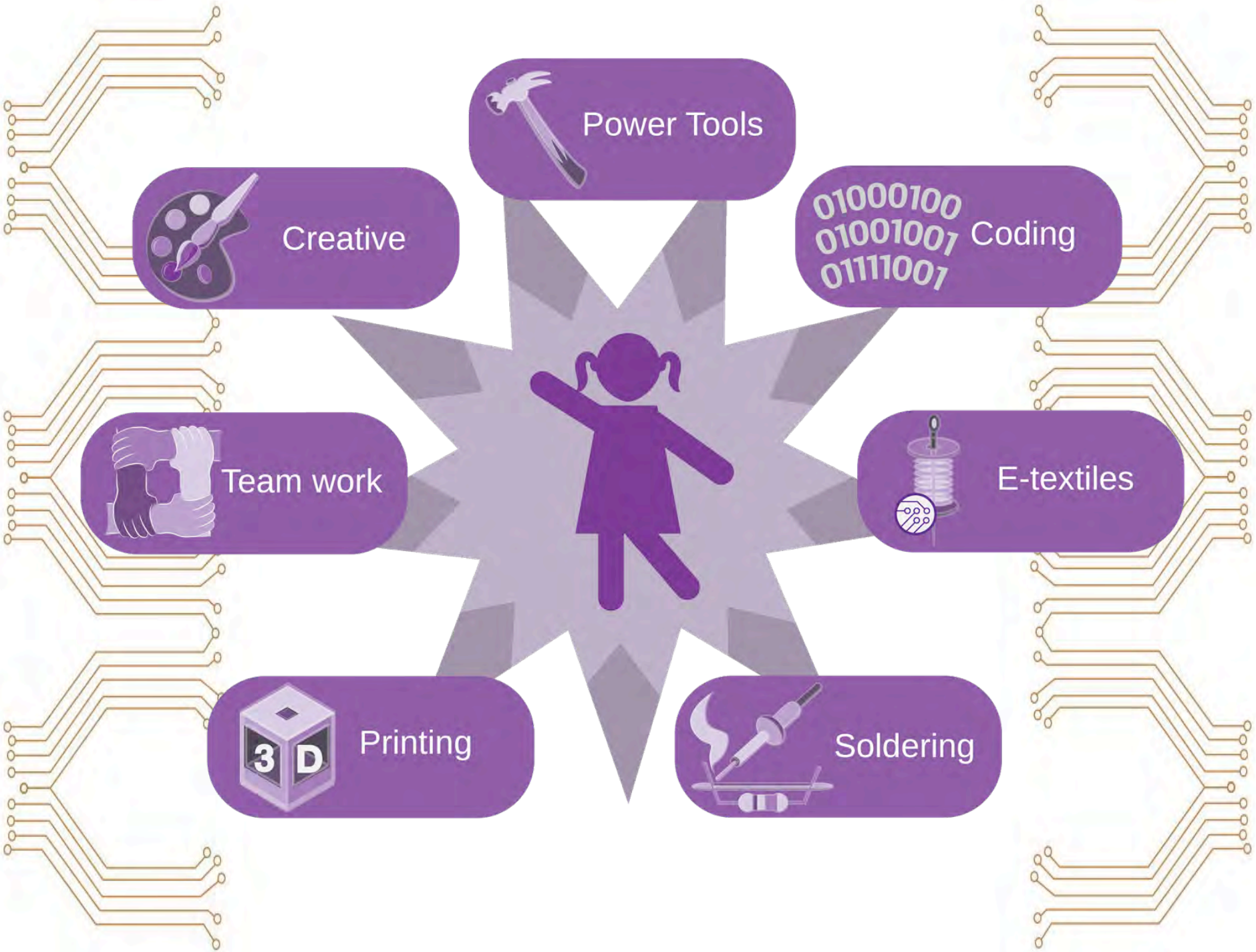
DIY (“Do-It-Yourself”) Girls increases girls’ interest and success in technology, engineering, and making through engaging hands-on projects and solid mentor relationships.

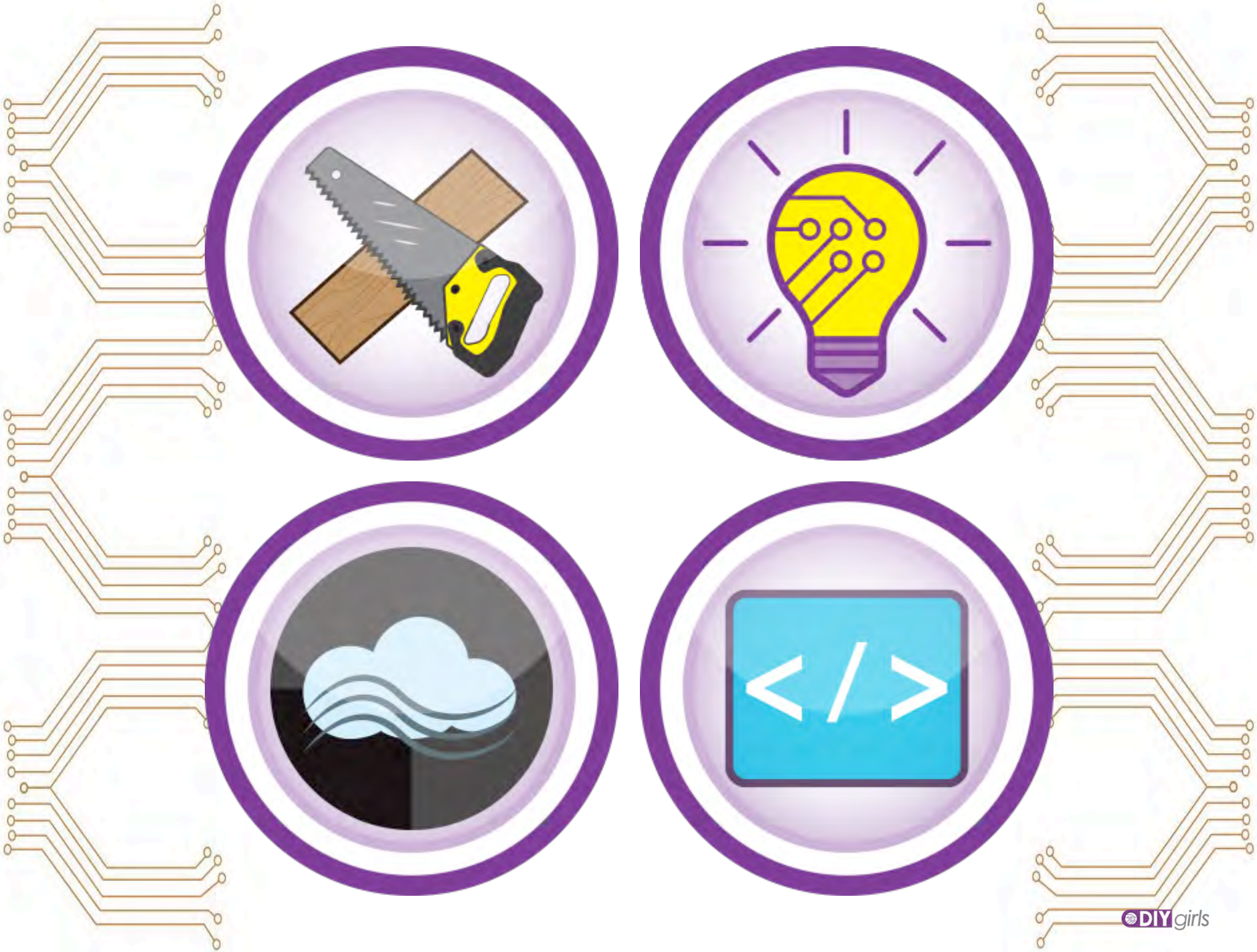
We want girls to apply the tech skills they learn with us to projects they love, for a community they care about.

2% Latina

DIY girls

I AM
SMART
I AM
STRONG
CAN DO


Power Tools
Creative
01000100
01001001
01111001
Coding
Team work
E-textiles
3 D
Printing
Soldering


< / >
DIY girls

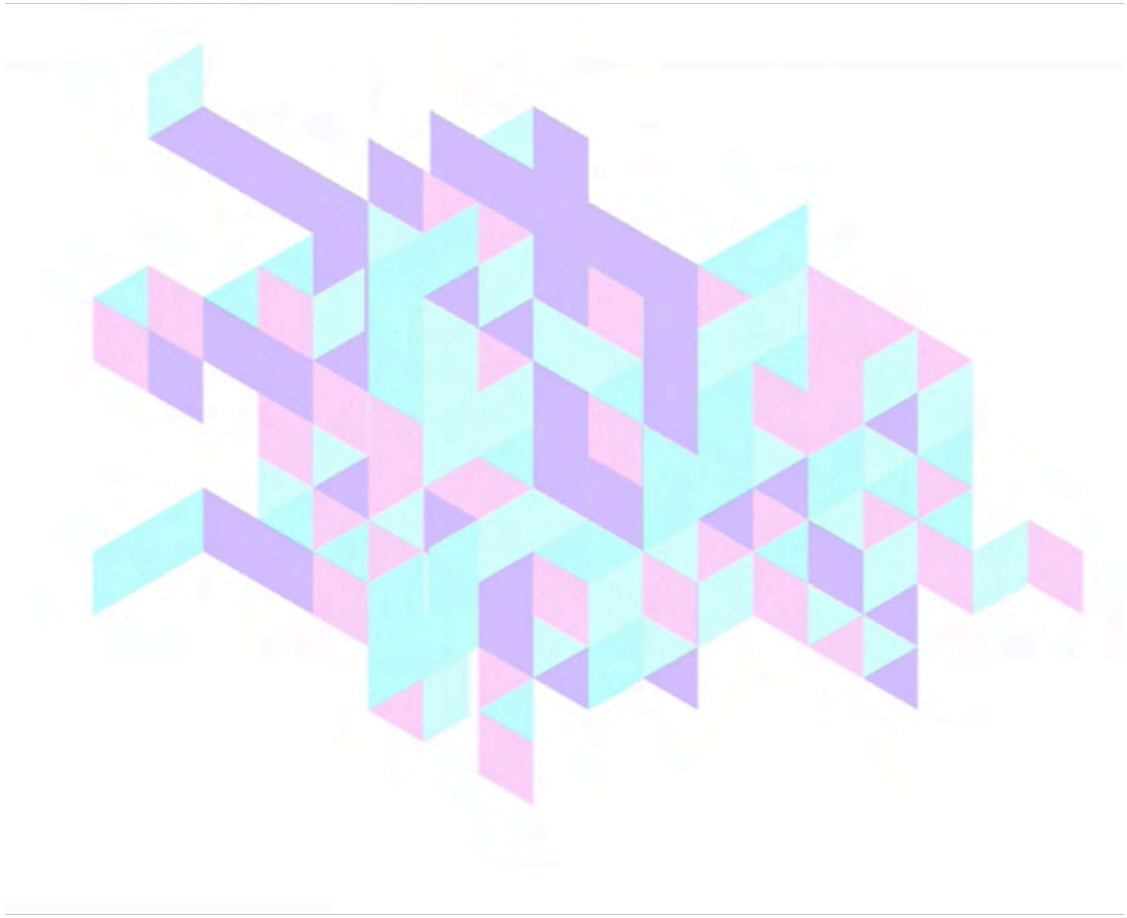
STUDENT WORK ESL
IB PA

WHAT?

WHAT.

Computational Thinking Definition

Computational Thinking is the process of expressing your thinking in a formal structure that a computer can process. Similar to writing notes on a piece of paper to “get your thoughts down,” creating a program allows people to externalize their thoughts in a form that can be manipulated and scrutinized. Programming allows students to think about their thinking; by debugging a program, students debug their own thinking (Papert, 1980).

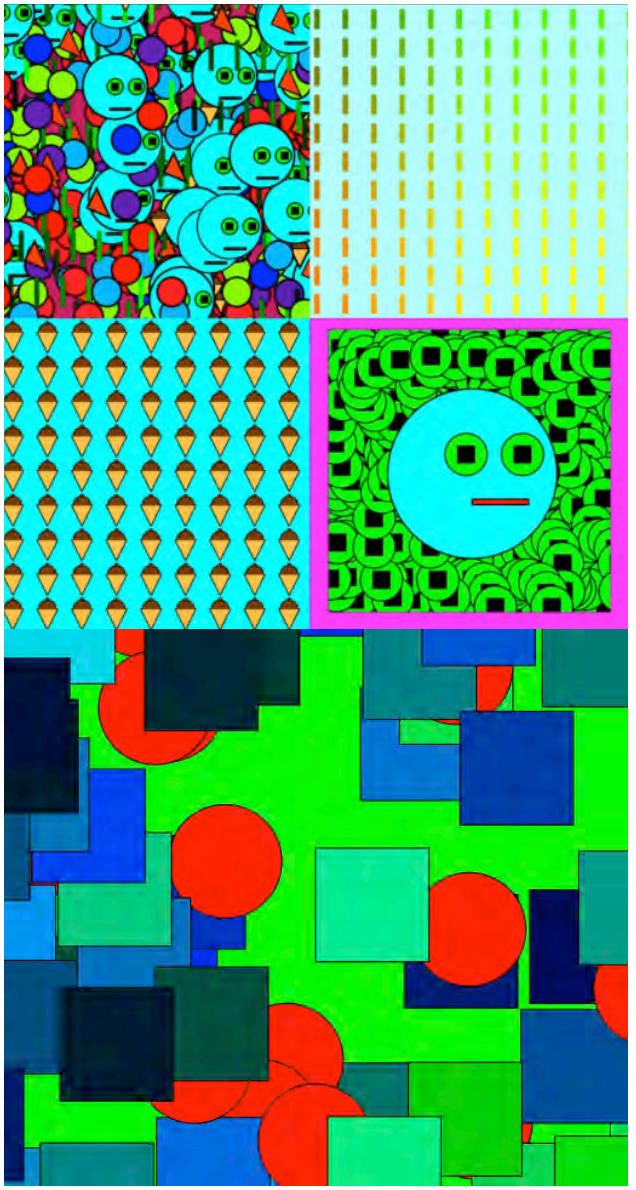


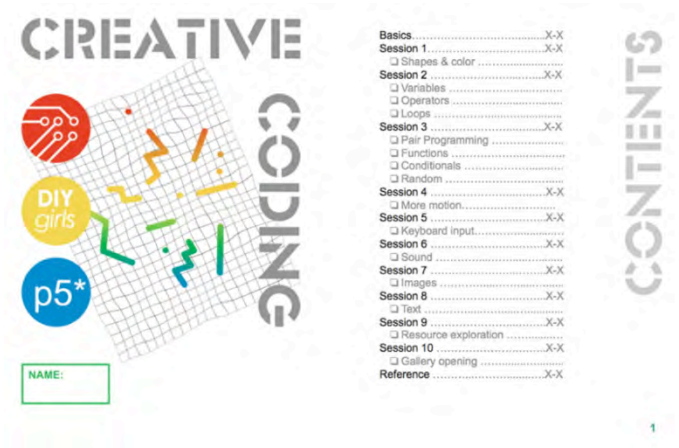
= $

DIY girls

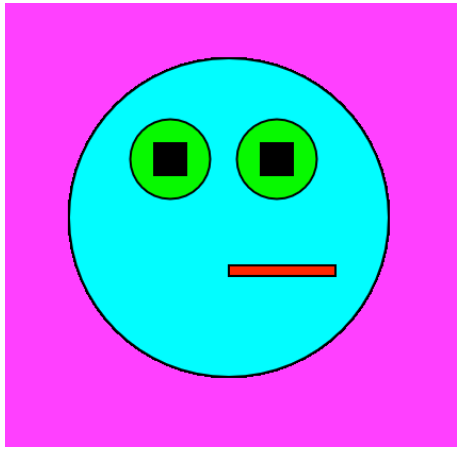
DIY Girls

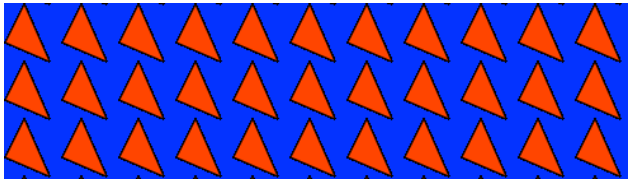
CREATIVE
CODING
CAMP
DIY
girls
NAME:




CREATIVE
CODING
DIY
girls
p5*
NAME:

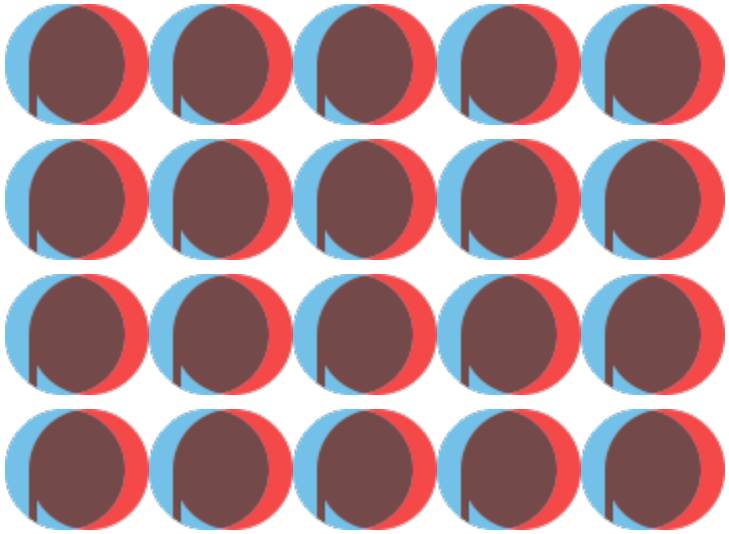
CONTENTS
Basics X-X
Session 1 X-X
❑ Shapes & color
Session 2 X-X
❑ Variables
❑ Operators
❑ Loops
Session 3 X-X
❑ Pair Programming
❑ Functions
❑ Conditionals
❑ Random
Session 4 X-X
❑ More motion
Session 5 X-X
❑ Keyboard input
Session 6 X-X
❑ Sound
Session 7 X-X
❑ Images
Session 8 X-X
❑ Text
Session 9 X-X
❑ Resource exploration
Session 10 X-X
❑ Gallery opening
Reference X-X
1





FAIL.

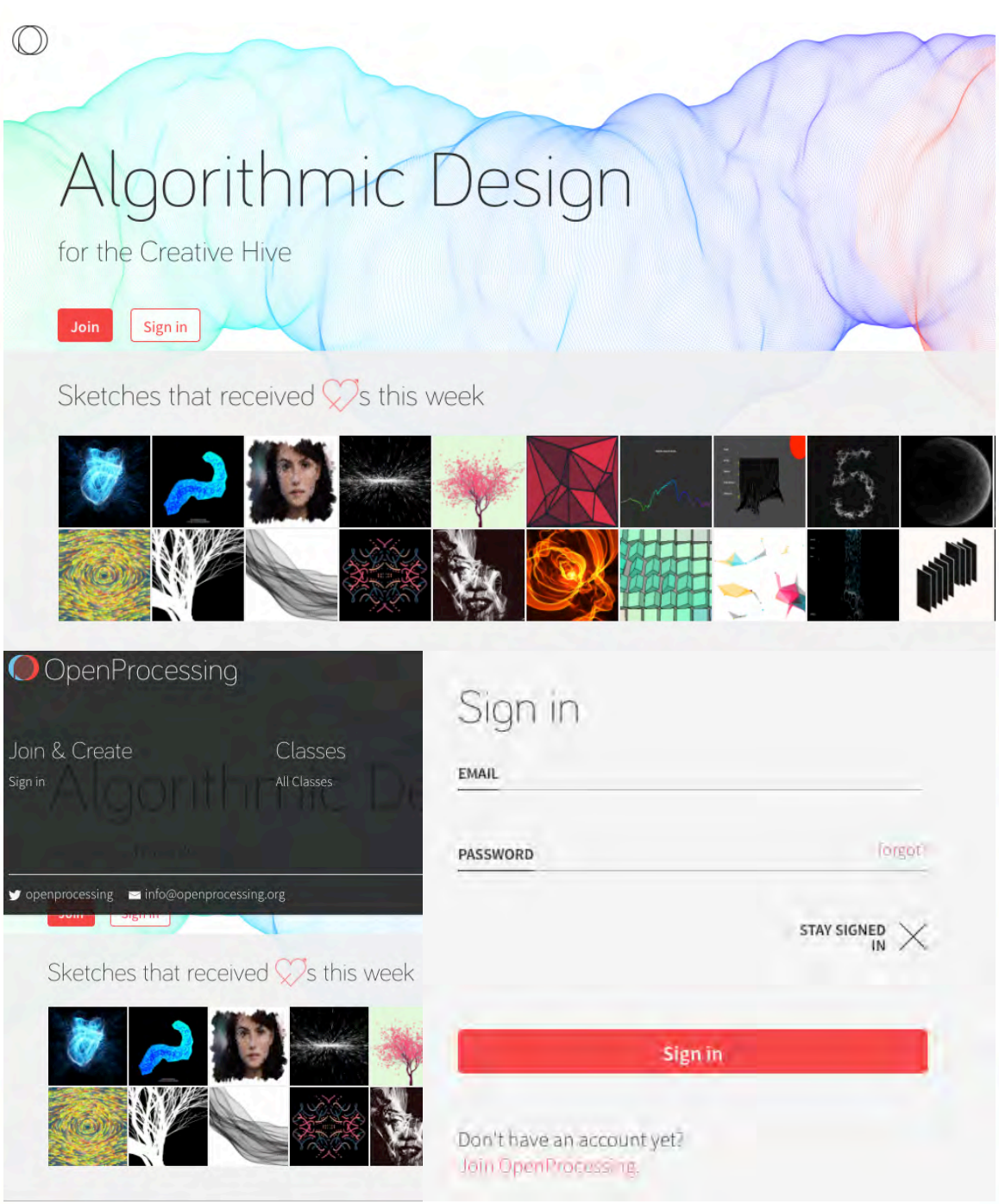
Let’s try it.

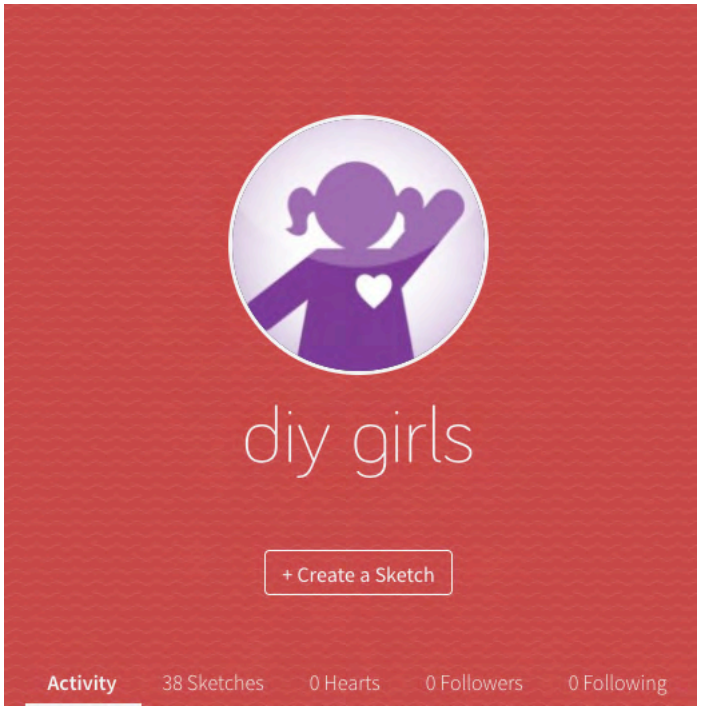


Open Processing

open openprocessing.org in Chrome

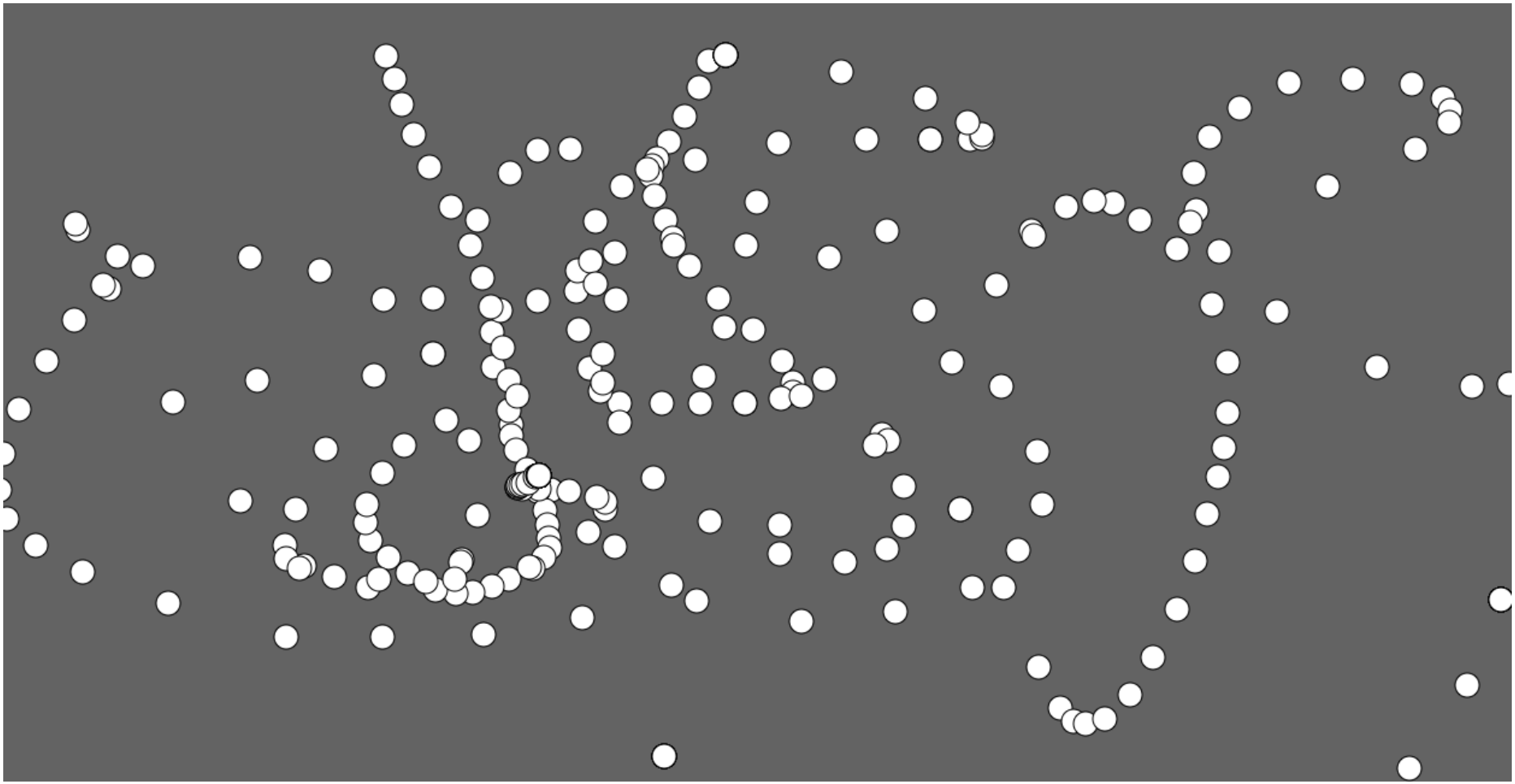
DIY girls


Algorithmic Design
for the Creative Hive
Join
Sign in
Sketches that received ♡s this week
OpenProcessing
Join & Create
Sign in
Classes
All Classes
openprocessing
info@openprocessing.org
Sketches that received ♡s this week
Sign in
EMAIL
PASSWORD
Forgot?
STAY SIGNED IN
Sign in
Don't have an account yet?
Join OpenProcessing.

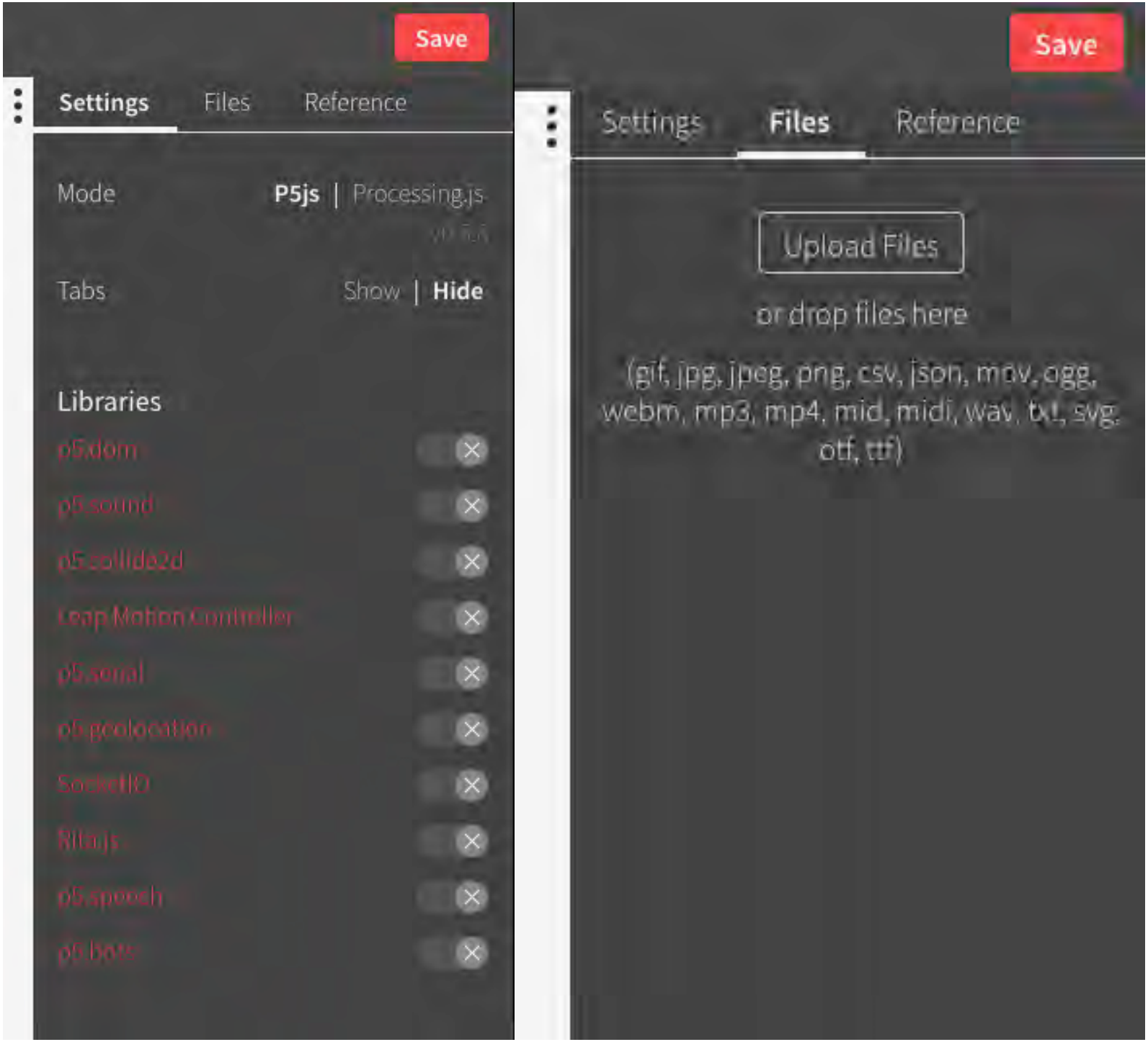

diy girls
+ Create a Sketch
Activity
38 Sketches
0 Hearts
0 Followers
0 Following

Save
function setup() {
createCanvas(windowWidth, windowHeight);
background(100);
}
function draw() {
ellipse(mouseX, mouseY, 20, 20);
}

Save
function setup() {
createCanvas(windowWidth, windowHeight);
background(100);
}
function draw() {
ellipse(mouseX, mouseY, 20, 20);
}
Settings
Files
Reference
Mode
P5js | Processing.js
Tabs
Show | Hide
Libraries

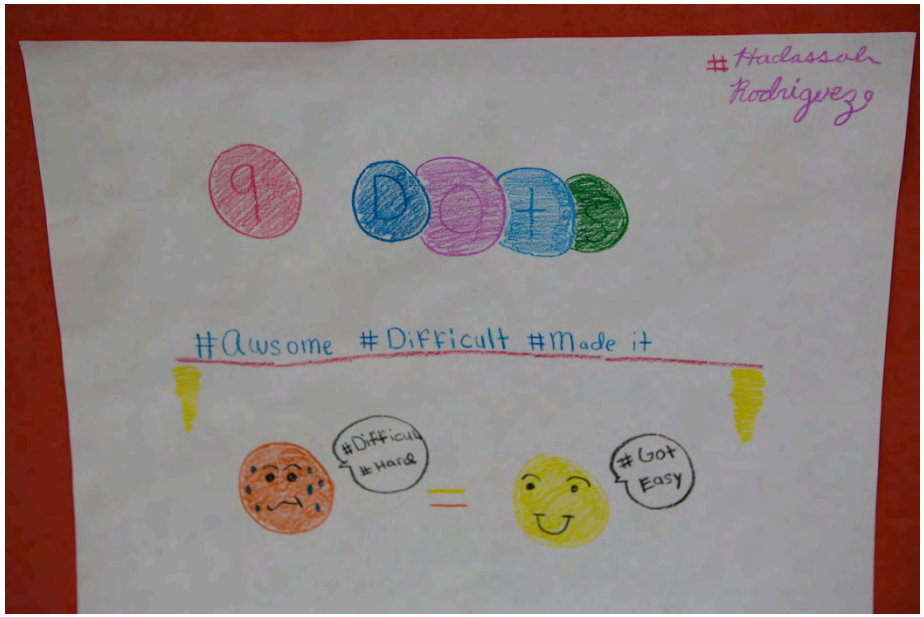


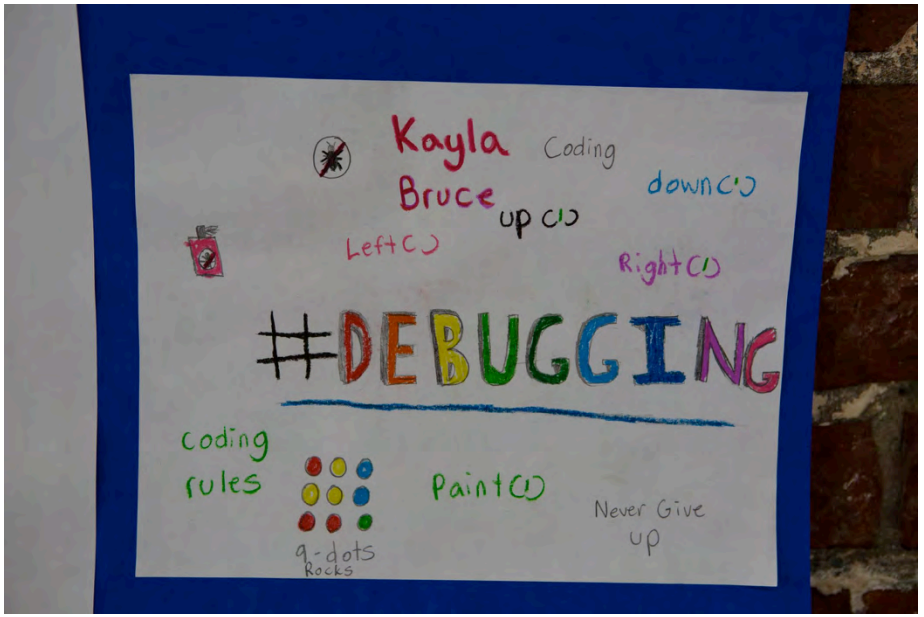
mySketch, Line 2: missing) after argument list


Save
Settings
Files
Reference
Mode
P5js | Processing.js
Tabs
Show | Hide
Libraries
p5.dom
p5.sound
p5.collide2d
Leap Motion Controller
p5.serial
p5.geolocation
SocketIO
Rita.js
p5.speech
p5.bots
Save
Settings
Files
Reference
Upload Files
or drop files here
(gif, jpg, jpeg, png, csv, json, mov, ogg, webm, mp3, mp4, mid, midi, wav, txt, svg, otf, ttf)

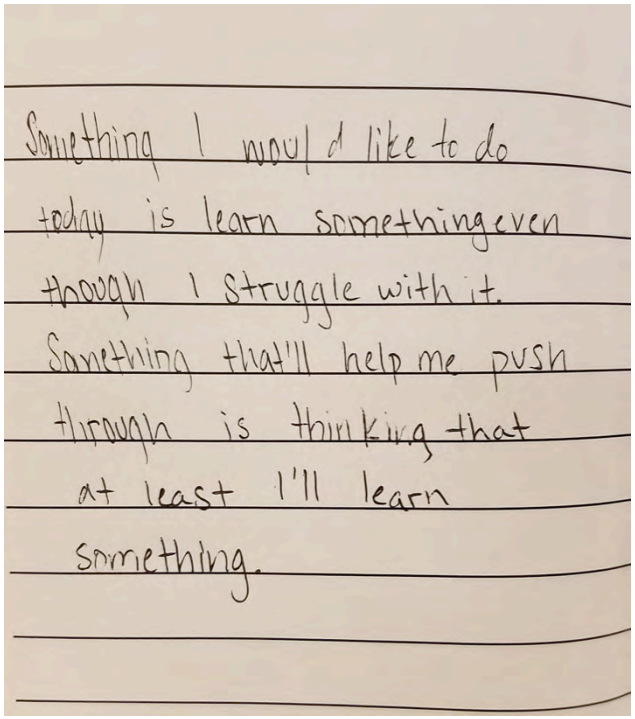
Protocols that help

Debug

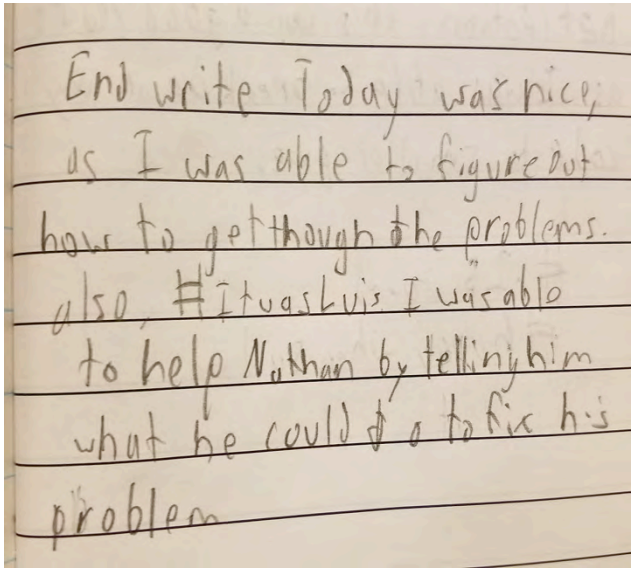

#Awsome #Difficult #Made it
#Difficult #Hard
#Got Easy


Kayla
Coding
Bruce
up
down
Left
Right
#DEBUGGING
coding rules
Paint
Never Give up
q-dots Rocks

Reflect


Something I would like to do today is learn something even though I struggle with it. Something that'll help me push through is thinking that at least I'll learn something.

Error!
Coding
3.14
devy
π = 3.14...


End write Today was nice, as I was able to figure out how to get though the problems. also, #Itwasthis I was able to help Nathan by telling him what he could do to fix his problem

Let’s talk. Bring struggle out of the shadows.

Write tiny tweets about how you felt at the time.

(talk with a neighbor and then share)

Tell me about the hardest bit of code you debugged today.

(write in your journal, talk with a neighbor, and then share)

How did you feel when you found your code broke?

(write in your journal, talk with a neighbor, and then share)

What were some successful approaches to debugging?

(write in your journal, talk with a neighbor, and then share)

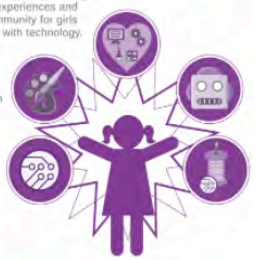
inspiration
challenges
successes
Never give up!
Never Give Up
Don't Be Sad
Pokeball
Be Brave
Yaa
Debugging Strategies
I don't

DIY girls

OUR MISSION

DIY ("Do-It-Yourself") Girls' mission is to increase girls' interest and success in technology, engineering and making through innovative educational experiences and mentor relationships. We're a supportive community for girls driven by an interest in creating and building with technology.

DIY Girls uses a three-pronged program approach that integrates engagement, capacity building, and continuity to ensure girls' success. We offer after-school and summer programs that provide hands-on STEAM (Science, Technology, Engineering, Art and Math) experiences for girls. Girls learn technical skills and apply them by creating their own creative projects and inventions.



DIY Girls has reached over 1200 girls in Los Angeles since 2012.

www.diygirls.org

FOLLOW US AT

DIYGIRLSORG

@DIYGIRLS

DIYGIRLSORG

#DIYGIRLSORG

GET INVOLVED WITH

STEM DIY girls

FROM HOME!

...RNING TO CODE

...TCH

...Game Mechanics : http://tinyurl.com/ScratchonTanks
...Game tutorials : http://tinyurl.com/ScratchCodeClub
...s : http://tinyurl.com/ScratchCards01
...Cards: http://tinyurl.com/ScratchCards02
...nics in Scratch: http://tinyurl.com/GameMechanicsScratch

...Script library that starts with the original goal of Processing ...ing accessible for artists, designers, educators, and beginners, ...n this for today's web : https://p5p.org
...Reference - http://www.upperlinecode.com/p5p/
...: Dan Shiffman's fun and live series that teaches you how to code: ...com Daniel Shiffman's YouTube Profile:
...Collection of tutorial videos: https://www.youtube.com/user/shiffman
PS Education Wiki: More ps resources : https://github.com/processing/p5.js/wiki/Educators
Khan Academy: Khan Academy takes the pressure away and allows you to learn at your own pace. There are other types of courses on web, like history and JavaScript. (Free): https://www.khanacademy.org

PROCESSING

Processing.org: The home of the Processing Foundation. Here you can download new versions of Processing, use an online reference, find tutorials and ask questions in the forums. processing.org
Fun Programming: Website devoted to video tutorials for Processing. http://funprogramming.org
hello.processing.org: A beginner's interactive video tutorial for Processing by Dan Shiffman of NYU's ITP program.
Learning Processing: Companion website to Daniel Shiffman's book. Has a lot of examples and videos. http://learningprocessing.com

CODE INSPIRATION

Prosthetic Knowledge: Website devoted to breakthroughs in art, science and technology. http://prostheticknowledge.tumblr.com
Creative Applications Network: An incredible resource for media art projects and new developments in the field. http://www.creativeapplications.net
DevArt: Art made with code: https://devart.withgoogle.com
The Creators Project: http://tinyurl.com/creatorsprojectplaylist

HANDS ON ELECTRONICS

Exploratorium: http://www.exploratorium.edu/explorer/activities
Design Squad: http://pbskids.org/designsquad/
http://www.creativeapplications.net
Maker Camp: http://makercamp.com/
MAKE magazine: http://makezine.com
Maker Ed: http://makered.org/resources/

ELECTRONICS INSPIRATION

Sparkfun's Electricute: http://tinyurl.com/hp4hrbp
Adafruit's Circuit Playground: http://tinyurl.com/hpr3bzj
Adafruit's Wearable Electronics: http://tinyurl.com/qsa7gk

STEM CAREERS

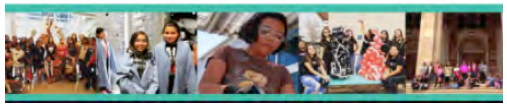
Careers with code: Computer Science careers guide: https://careerswithcode.com

Made with Code: Code your first creative project and meet music producers, fashion designers, humanitarians, and animators who use code every day. http://madewithcode.com

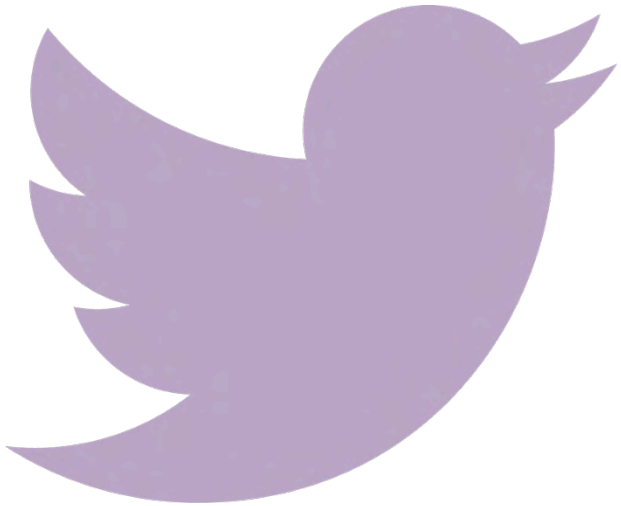
Careers with STEM: STEM careers guide: https://careerswith-stem.com

STUDENT SUCCESS RESOURCES

5 Tips to Improve Your Critical Thinking. By Samantha Agoos: TED-Ed video that explains critical thinking skills in a fun animation. https://youtu.be/ddUGFEGdTw
HowToStudy.org: A website devoted to teaching you how to succeed in school. It has different study tips, including how to read a textbook and how to take notes. HowToStudy.org
MIT Open Courseware: Offers the full range of MIT's course offerings for free online. Great to test out whether you'd like a subject and to hear lectures from one of the world's best educational institutions. (Free) https://ocw.mit.edu/index.htm
Skillshare: A platform for online learning of almost any subject. ($/Free) https://www.skillshare.com
Treehouse: An excellent source of online courses related to coding ($). **Coursera:** A platform that many universities use to create online courses and certificates. Courses are non-credit, but excellent to stay current and earn credentials. ($/Free) https://www.coursera.org
Lynda.com: Lynda has thousands of videos on many technical subjects. ($/Free): https://www.lynda.com



tinyurl.com/artofcoding



@DIYGirls

Sylvia Aguinaga

Director of Curriculum

sylvia@diygirls.org

#InThisTogether
JUST
DO
IT.